

Notice of Allowability

Application No.

09/652,322

Examiner

Quang N. Nguyen

Applicant(s)

MUKHERJEE ET AL.

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on 09/27/2004.
2. ☒ The allowed claim(s) is/are 1-47.
3. ☒ The drawings filed on 12 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Examiner's Amendment

1. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment maybe filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Pursuant to MPEP 606.01, the title has been changed to read:

-- METHOD AND SYSTEM FOR REDUCING NETWORK MESSAGE ROUTING
LATENCY BETWEEN THE NETWORK PORTS USING A PREDETERMINED
PRIORITIZATION IN COMBINATION WITH A LEAST-RECENTLY-GRANTED
PRIORITIZATION --

3. The following is an examiner's statement of reasons for allowance:

In interpreting the claims, in light of the specification and the applicant's arguments filed on 09/27/2004, the Examiner finds the claimed invention to be patentably distinct from the prior art of record.

Passint (US 5,970,232) teaches routers routing messages between processing element nodes based on age and header information, which contains information required to complete the message route (**Passint**, C11: L27-30 and L55-64).

Gotwald (US 5,987,518) teaches that a prioritization scheme is provided wherein different messages in the first data protocol are prioritized in the output multiplexed according to at least one of source address, destination address, data type and connection type (**Gotwald**, C4: L61-64).

The prior art of record teaches the claimed invention substantially, but it fails to teach or suggest individually or in combination that a distributed multiprocessing computer system, comprising: a plurality of microprocessor units coupled to each other, wherein each microprocessor unit comprises: *a router to route message packets between said microprocessor units; a plurality of network input ports and network output ports connecting said plurality of microprocessor units to form a computer network, wherein each of said network input ports couples to one or more associated local arbiters in the router, each of said local arbiters operable to select a message packet among message packets waiting at the network input port, wherein the router gives higher priority to message packets associated with the network ports than to the message packets associated with other microprocessor ports and wherein the router arbitrates between the network ports using a predetermined prioritization and a least-recently-granted prioritization* as set forth in independent claims 1, 14, 24 and 30. Claims 1-47 are allowed because of the combination of other limitations and the limitation listed above.


The examiner finds the Applicant's arguments on pages 13-15 of the Remarks filed on 06/21/2004 and pages 13-14 of the Remarks filed on 09/27/2004 to be persuasive. The applicant argued in substance that the combination of prior art of records fail to disclose the features of the invention including the router gives higher priority to message packets associated with the network ports than to message packets associated with other microprocessor ports and wherein the router arbitrates between the network ports using a predetermined prioritization and (in combination with) a least-recently-granted prioritization, as claimed in the invention to allow the routers (the local and global arbiters) prioritizing the packets from network input ports instead of choosing input ports in a Least-Recently-Granted fashion clears up older packets existing in the network before new packets are injected from the microprocessors. This allows faster removal of congestion and consequent reduction in network oscillations (see Specification, page 25, line 10 – page 26, line 18).

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Examiner's Amendment."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


RUPAL DHARIA
SUPERVISORY PATENT EXAMINER